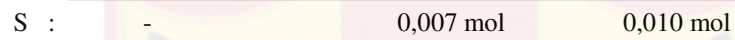


LAMPIRAN A
PERHITUNGAN PROSENTASE HASIL

Reaksi:



$$\text{BM O-(benzoil)piroksikam} = 472.0$$

$$\begin{aligned} \text{Berat teoritis O-(benzoil)piroksikam} &= 0,010 \text{ mol} \times 472.0 \\ &= 4.72 \text{ gram} \end{aligned}$$

$$\text{Hasil O-(benzoil)piroksikam yang didapat} = 1.821 \text{ gram}$$

$$\text{Jadi, persentase hasil} = \frac{\text{Berat senyawa hasil sintesis}}{\text{Berat senyawa secara teoritis}} \times 100 \%$$

$$= \frac{1.821}{4.72} \times 100 \%$$

$$= 38.58 \% = 39 \%$$

LAMPIRAN B
PERHITUNGAN BERAT

$$\begin{aligned}\text{Piroksikam} &= \text{mol} \times \text{BM} \\ &= 0.010 \text{ mol} \times 331.4 \\ &= 3.314 \text{ gram}\end{aligned}$$

$$\begin{aligned}\text{benzoil klorida} &= \text{mol} \times \text{BM} \\ &= 0.017 \text{ mmol} \times 140.5 \\ &= 2.3885 \text{ gram}\end{aligned}$$

$$\begin{aligned}\text{Volume O-benzoil klorida} &= \frac{\text{berat}}{\rho} \\ &= \frac{2.3885}{1.36} \\ &= 1.75 \text{ ml} \approx 2 \text{ ml}\end{aligned}$$

$$\begin{aligned}\text{Piridin} &= \text{mol} \times \text{BM} \\ &= 0.025 \text{ mol} \times 79,10 \\ &= 1,9775 \text{ gram}\end{aligned}$$

$$\begin{aligned}\text{Volume piridin} &= \frac{\text{berat}}{\rho} \\ &= \frac{1,9775}{0,9827} \\ &= 2,0123 \text{ ml} \approx 2 \text{ ml}\end{aligned}$$

LAMPIRAN C

PERHITUNGAN % HAMBATAN NYERI SENYAWA UJI O- (BENZOIL)PIROKSIKAM DAN SENYAWA PEMBANDING PIROKSIKAM

Rumus : $\% \text{ hambatan nyeri} = \frac{f_K - f_T}{f_K} \times 100 \%$

f_T = frekuensi geliat rata-rata pada kelompok uji atau kelompok pembandingan

f_K = frekuensi geliat rata-rata pada kelompok kontrol

Perhitungan :

Piroksikam	O-(benzoil)piroksikam
Dosis 0.625 mg/kg BB	Dosis 0.625 mg/kg BB
% Hambatan nyeri = $\frac{173.4 - 155}{173.4} \times 100\%$ = 10.61 %	% Hambatan nyeri = $\frac{173.4 - 133.2}{173.4} \times 100\%$ = 23.18%
Dosis 1.25 mg/kg BB	Dosis 1.25 mg/kg BB
% Hambatan nyeri = $\frac{173.4 - 139}{173.4} \times 100\%$ = 19.83 %	% Hambatan nyeri = $\frac{173.4 - 90.8}{173.4} \times 100\%$ = 47.63 %
Dosis 2.5 mg/kg BB	Dosis 2.5 mg/kg BB
% Hambatan nyeri = $\frac{173.4 - 118}{173.4} \times 100\%$ = 31.94 %	% Hambatan nyeri = $\frac{173.4 - 70.6}{173.4} \times 100\%$ = 459.28 %
Dosis 5 mg/kg BB	Dosis 5 mg/kg BB
% Hambatan nyeri =	% Hambatan nyeri =

$\frac{173.4 - 98}{173.4} \times 100\%$ $= 43.48\%$ Dosis 5 mg/kg BB % Hambatan nyeri = $\frac{173.4 - 71}{173.4} \times 100\%$ $= 59.05 \%$	$\frac{173.4 - 70.6}{173.4} \times 100\%$ $= 59.28 \%$ Dosis 10 mg/kg BB % Hambatan nyeri = $\frac{173.4 - 69.6}{173.4} \times 100\%$ $= 59.86 \%$
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LAMPIRAN D
HASIL UJI HSD ANTARA KELOMPOK SENYAWA UJI
O(BENZOIL)PIROKSIKAM, SENYAWA PEMBANDING
PIROKSIKAM, DAN KONTROL CMC-NA 0,5%

Post Hoc Tests

Multiple Comparisons

Dependent Variable: GELIAT
 Tukey HSD

LAMPIRAN

ANOVA

Geliat

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	71332.436	10	7133.244	19.857	.000
Within Groups	15806.400	44	359.236		
Total	87138.836	54			

Multiple Comparisons

Dependent Variable: Geliat
 LSD

(I) Dosis	(J) Dosis	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
0.625A	1.25A	42.40000(*)	11.98727	.001	18.2413	66.5587
	2.5A	62.60000(*)	11.98727	.000	38.4413	86.7587
	5A	62.60000(*)	11.98727	.000	38.4413	86.7587
	10A	63.60000(*)	11.98727	.000	39.4413	87.7587

	0.625B	-22.00000	11.98727	.073	-46.1587	2.1587
	1.25B	-6.00000	11.98727	.619	-30.1587	18.1587
	2.5B	14.80000	11.98727	.224	-9.3587	38.9587
	5B	35.60000(*)	11.98727	.005	11.4413	59.7587
	10B	62.20000(*)	11.98727	.000	38.0413	86.3587
	Kontrol	-40.20000(*)	11.98727	.002	-64.3587	-
1.25A	0.625A	-42.40000(*)	11.98727	.001	-66.5587	-
						18.2413
	2.5A	20.20000	11.98727	.099	-3.9587	44.3587
	5A	20.20000	11.98727	.099	-3.9587	44.3587
	10A	21.20000	11.98727	.084	-2.9587	45.3587
	0.625B	-64.40000(*)	11.98727	.000	-88.5587	-
						40.2413
	1.25B	-48.40000(*)	11.98727	.000	-72.5587	-
						24.2413
	2.5B	-27.60000(*)	11.98727	.026	-51.7587	-3.4413
	5B	-6.80000	11.98727	.573	-30.9587	17.3587
	10B	19.80000	11.98727	.106	-4.3587	43.9587
	Kontrol	-82.60000(*)	11.98727	.000	-106.7587	-
						58.4413
2.5A	0.625A	-62.60000(*)	11.98727	.000	-86.7587	-
						38.4413
	1.25A	-20.20000	11.98727	.099	-44.3587	3.9587
	5A	.00000	11.98727	1.000	-24.1587	24.1587
	10A	1.00000	11.98727	.934	-23.1587	25.1587
	0.625B	-84.60000(*)	11.98727	.000	-108.7587	-
						60.4413
	1.25B	-68.60000(*)	11.98727	.000	-92.7587	-
						44.4413
	2.5B	-47.80000(*)	11.98727	.000	-71.9587	-
						23.6413
	5B	-27.00000(*)	11.98727	.029	-51.1587	-2.8413
	10B	-.40000	11.98727	.974	-24.5587	23.7587
	Kontrol	-102.80000(*)	11.98727	.000	-126.9587	-
						78.6413
5A	0.625A	-62.60000(*)	11.98727	.000	-86.7587	-
						38.4413
	1.25A	-20.20000	11.98727	.099	-44.3587	3.9587
	2.5A	.00000	11.98727	1.000	-24.1587	24.1587
	10A	1.00000	11.98727	.934	-23.1587	25.1587
	0.625B	-84.60000(*)	11.98727	.000	-108.7587	-
						60.4413

10A	1.25B	-68.60000(*)	11.98727	.000	-92.7587	-
						44.4413
	2.5B	-47.80000(*)	11.98727	.000	-71.9587	-
						23.6413
	5B	-27.00000(*)	11.98727	.029	-51.1587	-2.8413
	10B	-.40000	11.98727	.974	-24.5587	23.7587
	Kontrol	-102.80000(*)	11.98727	.000	-126.9587	-
						78.6413
	0.625A	-63.60000(*)	11.98727	.000	-87.7587	-
						39.4413
	1.25A	-21.20000	11.98727	.084	-45.3587	2.9587
	2.5A	-1.00000	11.98727	.934	-25.1587	23.1587
	5A	-1.00000	11.98727	.934	-25.1587	23.1587
	0.625B	-85.60000(*)	11.98727	.000	-109.7587	-
						61.4413
0.625B	1.25B	-69.60000(*)	11.98727	.000	-93.7587	-
						45.4413
	2.5B	-48.80000(*)	11.98727	.000	-72.9587	-
						24.6413
	5B	-28.00000(*)	11.98727	.024	-52.1587	-3.8413
	10B	-1.40000	11.98727	.908	-25.5587	22.7587
	Kontrol	-103.80000(*)	11.98727	.000	-127.9587	-
						79.6413
	0.625A	22.00000	11.98727	.073	-2.1587	46.1587
	1.25A	64.40000(*)	11.98727	.000	40.2413	88.5587
	2.5A	84.60000(*)	11.98727	.000	60.4413	108.7587
	5A	84.60000(*)	11.98727	.000	60.4413	108.7587
	10A	85.60000(*)	11.98727	.000	61.4413	109.7587
	1.25B	16.00000	11.98727	.189	-8.1587	40.1587
	2.5B	36.80000(*)	11.98727	.004	12.6413	60.9587
	5B	57.60000(*)	11.98727	.000	33.4413	81.7587
1.25B	10B	84.20000(*)	11.98727	.000	60.0413	108.3587
	Kontrol	-18.20000	11.98727	.136	-42.3587	5.9587
	0.625A	6.00000	11.98727	.619	-18.1587	30.1587
	1.25A	48.40000(*)	11.98727	.000	24.2413	72.5587
	2.5A	68.60000(*)	11.98727	.000	44.4413	92.7587
	5A	68.60000(*)	11.98727	.000	44.4413	92.7587
	10A	69.60000(*)	11.98727	.000	45.4413	93.7587
	0.625B	-16.00000	11.98727	.189	-40.1587	8.1587

2.5B	2.5B	20.80000	11.98727	.090	-3.3587	44.9587
	5B	41.60000(*)	11.98727	.001	17.4413	65.7587
	10B	68.20000(*)	11.98727	.000	44.0413	92.3587
	Kontrol	-34.20000(*)	11.98727	.007	-58.3587	-
	0.625A	-14.80000	11.98727	.224	-38.9587	10.0413
	1.25A	27.60000(*)	11.98727	.026	3.4413	51.7587
	2.5A	47.80000(*)	11.98727	.000	23.6413	71.9587
	5A	47.80000(*)	11.98727	.000	23.6413	71.9587
	10A	48.80000(*)	11.98727	.000	24.6413	72.9587
	0.625B	-36.80000(*)	11.98727	.004	-60.9587	-
5B	1.25B	-20.80000	11.98727	.090	-44.9587	12.6413
	5B	20.80000	11.98727	.090	-3.3587	3.3587
	10B	47.40000(*)	11.98727	.000	23.2413	44.9587
	Kontrol	-55.00000(*)	11.98727	.000	-79.1587	71.5587
	0.625A	-35.60000(*)	11.98727	.005	-59.7587	-
	1.25A	6.80000	11.98727	.573	-17.3587	30.8413
	2.5A	27.00000(*)	11.98727	.029	2.8413	-
	5A	27.00000(*)	11.98727	.029	2.8413	11.4413
	10A	28.00000(*)	11.98727	.024	3.8413	30.9587
	0.625B	-57.60000(*)	11.98727	.000	-81.7587	51.1587
10B	1.25B	-41.60000(*)	11.98727	.001	-65.7587	-
	2.5B	-20.80000	11.98727	.090	-44.9587	17.4413
	10B	26.60000(*)	11.98727	.032	2.4413	3.3587
	Kontrol	-75.80000(*)	11.98727	.000	-99.9587	50.7587
	0.625A	-62.20000(*)	11.98727	.000	-86.3587	-
	1.25A	-19.80000	11.98727	.106	-43.9587	51.6413
	2.5A	.40000	11.98727	.974	-23.7587	-
	5A	.40000	11.98727	.974	-23.7587	38.0413
	10A	1.40000	11.98727	.908	-22.7587	4.3587
	0.625B	-84.20000(*)	11.98727	.000	-108.3587	24.5587
	1.25B	-68.20000(*)	11.98727	.000	-92.3587	24.5587
	2.5B	-47.40000(*)	11.98727	.000	-71.5587	25.5587
						-
						60.0413
						-
						44.0413
						-
						23.2413

	5B	-26.60000(*)	11.98727	.032	-50.7587	-2.4413
	Kontrol	-102.40000(*)	11.98727	.000	-126.5587	-
Kontrol	0.625A	40.20000(*)	11.98727	.002	16.0413	78.2413
	1.25A	82.60000(*)	11.98727	.000	58.4413	64.3587
	2.5A	102.80000(*)	11.98727	.000	78.6413	106.7587
	5A	102.80000(*)	11.98727	.000	78.6413	126.9587
	10A	103.80000(*)	11.98727	.000	79.6413	126.9587
	0.625B	18.20000	11.98727	.136	-5.9587	42.3587
	1.25B	34.20000(*)	11.98727	.007	10.0413	58.3587
	2.5B	55.00000(*)	11.98727	.000	30.8413	79.1587
	5B	75.80000(*)	11.98727	.000	51.6413	99.9587
	10B	102.40000(*)	11.98727	.000	78.2413	126.5587

* The mean difference is significant at the .05 level.

E. HASIL UJI ED₅₀ SENYAWA O-(BENZOIL)

***** PROBIT ANALYSIS *****

Parameter estimates converged after 14 iterations.
Optimal solution found.

Parameter Estimates (PROBIT model: (PROBIT(p)) = Intercept + BX):

	Regression Coeff.	Standard Error	Coeff./S.E.
Dosis	1.42051	.23865	5.95240
Intercept	-.60047	.11647	-5.15543

Pearson Goodness-of-Fit Chi Square = 4.580 DF = 3 P = .205

Since Goodness-of-Fit Chi square is NOT significant, no heterogeneity factor is used in the calculation of confidence limits.

***** PROBIT ANALYSIS *****

Observed and Expected Frequencies

	Number of	Observed	Expected		
Dosis	Subjects	Responses	Responses	Residual	Prob
1	100.0	23.2	27.410	-4.226	.27410
2	100.0	47.6	43.138	4.497	.43138
3	100.0	59.3	53.080	6.205	.53080
4	100.0	59.3	60.055	-.770	.60055
5	100.0	59.9	65.263	-5.401	.65263

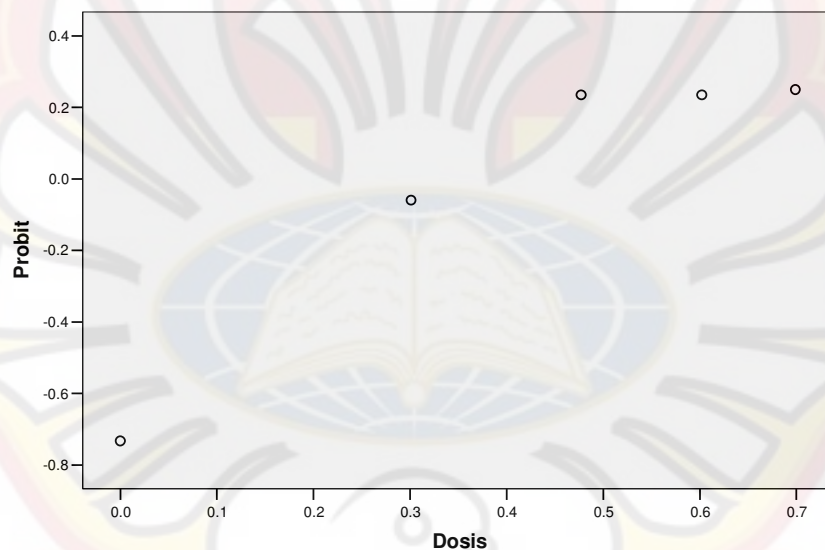
***** PROBIT ANALYSIS *****

Confidence Limits for Effective Dosis

Prob	Dosis	95% Confidence Limits	
		Lower	Upper
.01	.06096	.00942	.15740
.02	.09483	.01818	.21986
.03	.12551	.02757	.27185
.04	.15498	.03772	.31897
.05	.18399	.04865	.36331
.06	.21291	.06042	.40592
.07	.24199	.07306	.44742
.08	.27138	.08659	.48821
.09	.30121	.10104	.52857
.10	.33154	.11647	.56872
.15	.49328	.20948	.77099
.20	.67645	.33332	.98394
.25	.88694	.49524	1.21602
.30	1.13123	.70420	1.47598
.35	1.41730	.97055	1.77578
.40	1.75536	1.30429	2.13521
.45	2.15900	1.71024	2.59056
.50	<u>2.64676</u>	<u>2.18134</u>	<u>3.20750</u>

.55	3.24472	2.70454	4.08542
.60	3.99084	3.28447	5.35182
.65	4.94276	3.95148	7.18809
.70	6.19267	4.75564	9.90363
.75	7.89835	5.77336	14.07959
.80	10.35601	7.13602	20.91657
.85	14.20151	9.10766	33.27974
.90	21.12957	12.34752	59.85335
.91	23.25778	13.28556	68.98909
.92	25.81340	14.38418	80.50843
.93	28.94874	15.69576	95.41610
.94	32.90267	17.30060	115.36368
.95	38.07543	19.32987	143.26899
.96	45.20098	22.01714	184.81918
.97	55.81357	25.83369	252.80311
.98	73.87463	31.94295	383.45844
.99	114.92041	44.61689	739.72825

Probit Transformed Responses



F. HASIL UJI ED₅₀ SENYAWA PIROKSIKAM

***** PROBIT ANALYSIS *****

Parameter estimates converged after 10 iterations.
Optimal solution found.

Parameter Estimates (PROBIT model: (PROBIT(p)) = Intercept + BX):

	Regression Coeff.	Standard Error	Coeff./S.E.
Dosis	.36400	.04530	8.03543
Intercept	-1.59284	.15956	-9.98283

Pearson Goodness-of-Fit Chi Square = .097 DF = 3 P = .992

Since Goodness-of-Fit Chi square is NOT significant, no heterogeneity factor is used in the calculation of confidence limits.

***** PROBIT ANALYSIS *****

Observed and Expected Frequencies

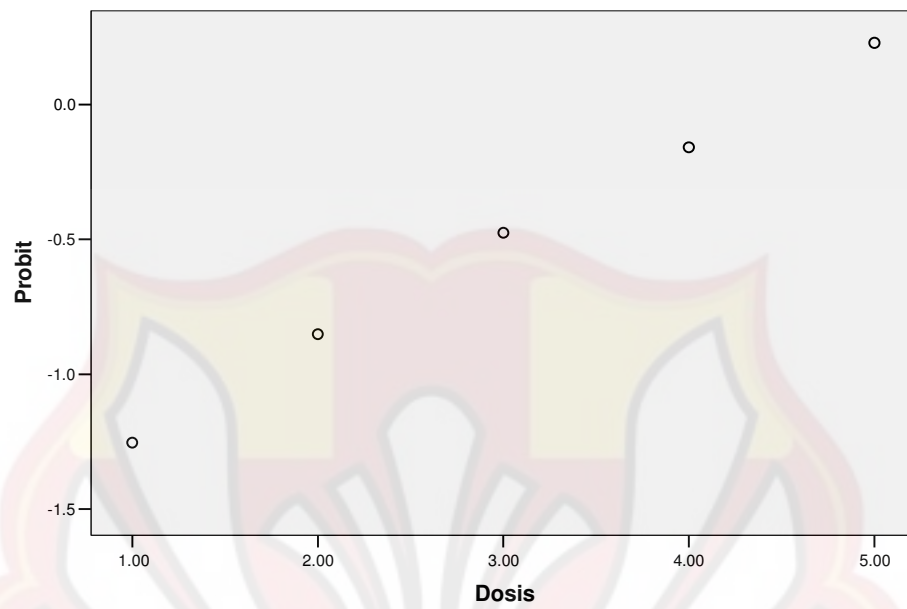
Dosis	Number of Subjects	Observed Responses	Expected Responses	Residual	Prob
1.00	100.0	10.5	10.956	-.461	.10956
2.00	100.0	19.7	19.356	.367	.19356
3.00	100.0	31.7	30.824	.895	.30824
4.00	100.0	43.7	44.557	-.843	.44557
5.00	100.0	59.1	58.984	.070	.58984

***** PROBIT ANALYSIS *****

Confidence Limits for Effective Dosis

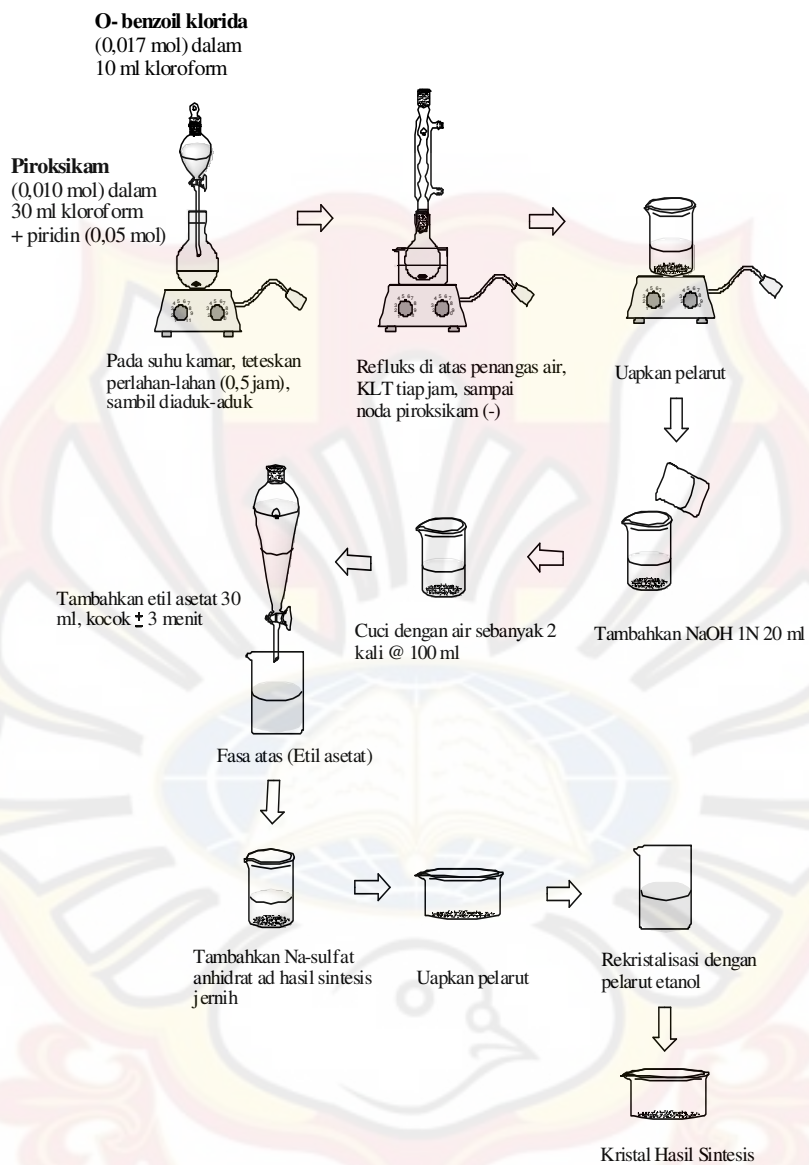
Prob	Dosis	95% Confidence Limits	
		Lower	Upper
.01	-2.01514	-3.75650	-.94046
.02	-1.26624	-2.77261	-.33179
.03	-.79108	-2.14954	.05558
.04	-.43364	-1.68168	.34782
.05	-.14289	-1.30180	.58623
.06	.10458	-.97907	.78976
.07	.32157	-.69667	.96878
.08	.51586	-.44434	1.12960
.09	.69255	-.21537	1.27638
.10	.85520	-.00512	1.41201
.15	1.52861	.85798	1.98092
.20	2.06381	1.52995	2.44707
.25	2.52297	2.08821	2.86522
.30	2.93530	2.56611	3.26416
.35	3.31739	2.98191	3.66088
.40	3.67996	3.35028	4.06352
.45	4.03075	3.68548	4.47428
.50	4.37597	4.00014	4.89375
.55	4.72120	4.30435	5.32367
.60	5.07199	4.60625	5.76773
.65	5.43456	4.91312	6.23186
.70	5.81665	5.23265	6.72485
.75	6.22898	5.57442	7.25993
.80	6.68814	5.95239	7.85836
.85	7.22334	6.39061	8.55827
.90	7.89675	6.93954	9.44135
.91	8.05940	7.07182	9.65494
.92	8.23609	7.21542	9.88709
.93	8.43038	7.37320	10.14246
.94	8.64736	7.54929	10.42780
.95	8.89484	7.74997	10.75338
.96	9.18559	7.98556	11.13608
.97	9.54303	8.27496	11.60678
.98	10.01819	8.65935	12.23282
.99	10.76709	9.26459	13.22014

Probit Transformed Responses



LAMPIRAN G

SKEMA SINTESIS O-(BENZOIL)PIROKSIKAM



LAMPIRAN H
SERTIFIKAT ANALISIS PIROKSIKAM

南通精华制药股份有限公司检验报告
NANTONG JINGHUA PHARMACEUTICAL CO. LTD.
CERTIFICATE OF ANALYSIS
APIs.ADD:43 Yaogang Road,Nantong Jiangsu China
Tel:86-513-85609405/85609406

吡 罗 昔 康
PIROXICAM **MICRONIZED**

Batch No.	PRX2009005M	Manufacture Date	2009.3.4
Total Quantity	200.0KG	Report Date	2009.3.5
Commercial Quantity	200.0KG	Re-test Date	2012.3.3
Inspection No.	09030020		

TEST	SPECIFICATIONS (USP)	RESULTS
Characteristics	off-white to light tan or light yellow odorless powder	Complies
Identification	A. IR B. UV C. TLC	Complies
Water	≤0.5%	0.32%
Residue on ignition	≤0.3%	0.14%
Heavy metals	≤0.005%	<0.005%
Organic volatile impurities	complies	Complies
Residual solvents	Ethanol ≤0.5%	<0.5%
Particle size	100%≤1000mesh	Complies
Assay	97.0~103.0%	99.46%

Conclusion The product meets the requirements of USP 31 and the additional items defined by customer

Analyst *[Signature]* Supervisor *[Signature]* Chief of Laboratory *[Signature]*
2009.3.5 2009.3.5 2009.3.5

QA Release Date 2009.3.5

PT. TATA KIRITAMA